Effects of Mercury Control on Sale of Fly Ash as a Cement Replacement

Slides courtesy of Dr. Russell Hill,
Boral Materials Technologies

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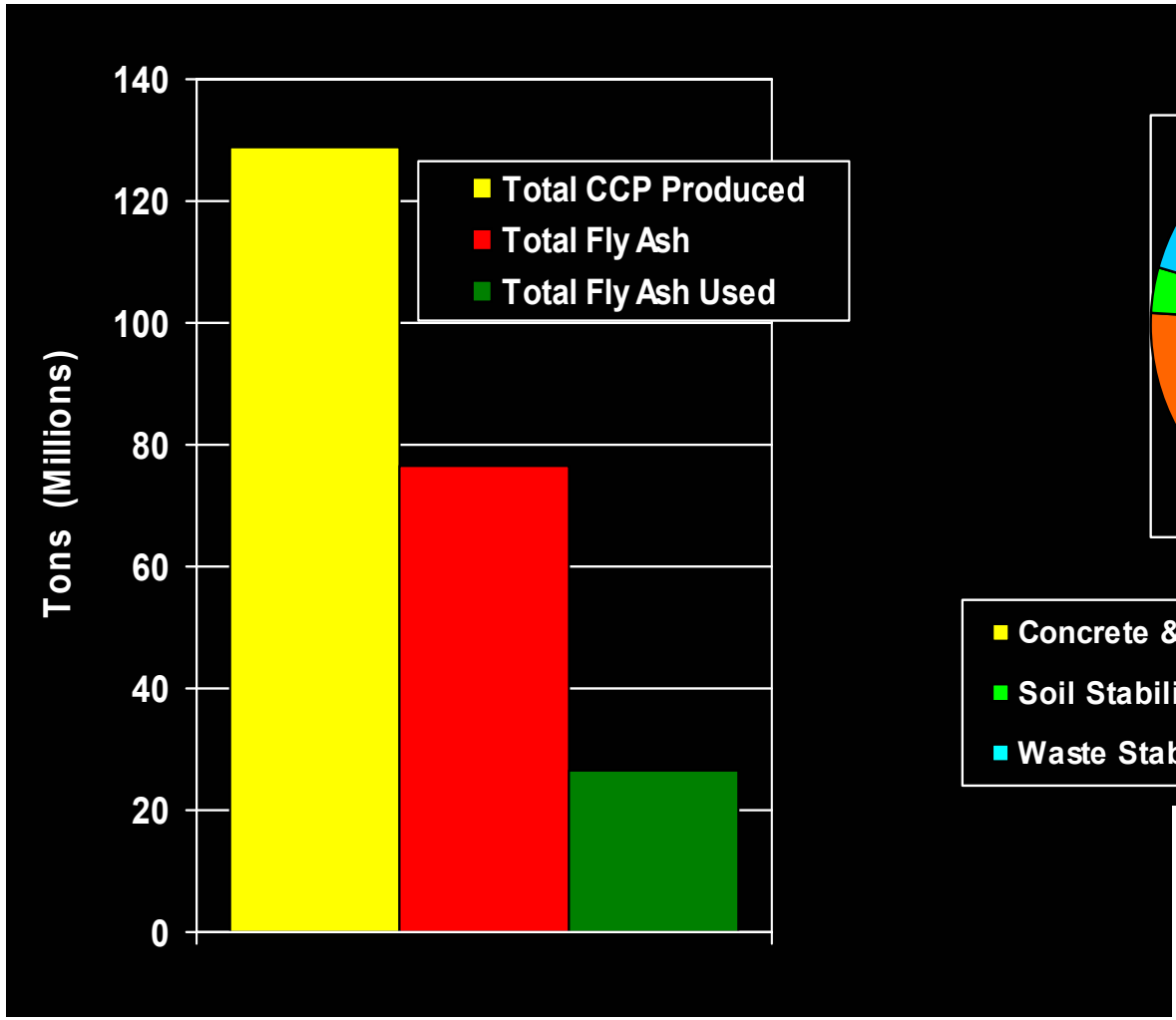
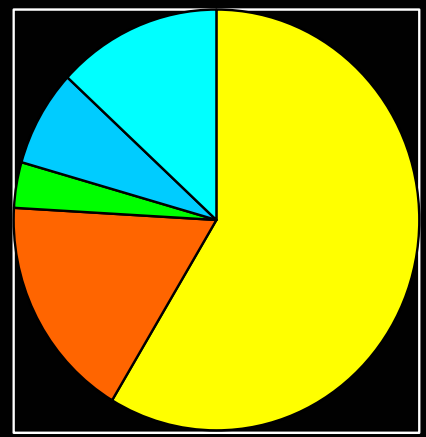
Production and Use of Coal Fly Ash 2003





Concrete & Cement
Structural Fills
Soil Stabilization
Mining Applications
Waste Stabilization

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Advantages of Air-Entrained Concrete

Fresh Concrete

Improved workability
Reduced segregation
Earlier finishing
Less sand
Less water

Hardened Concrete

Increased freeze-thaw resistance
Improved scaling resistance to de-icers
Improved resistance to sulfate action
Improved watertightness

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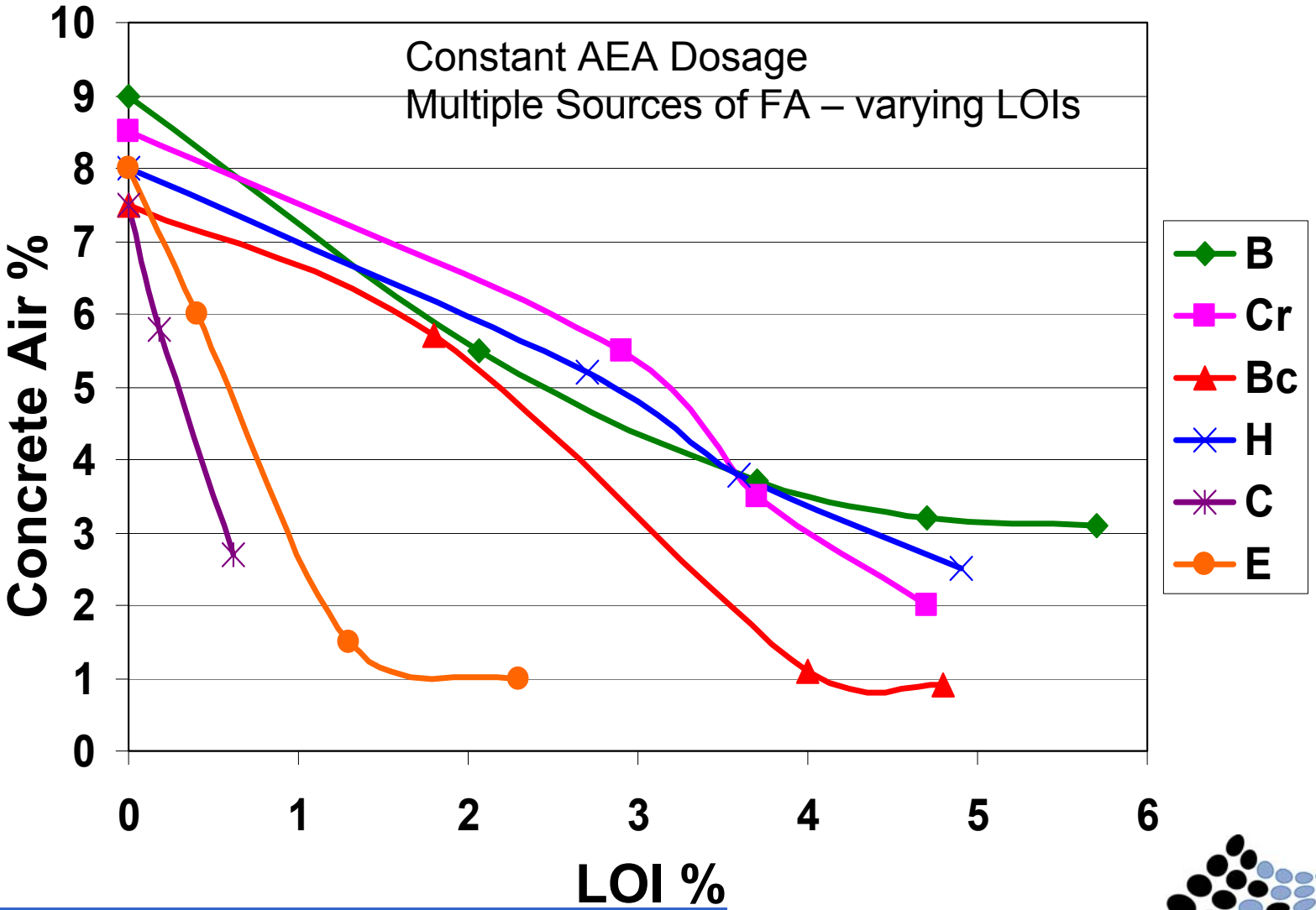
Air Entrainment of Various Fly Ashes



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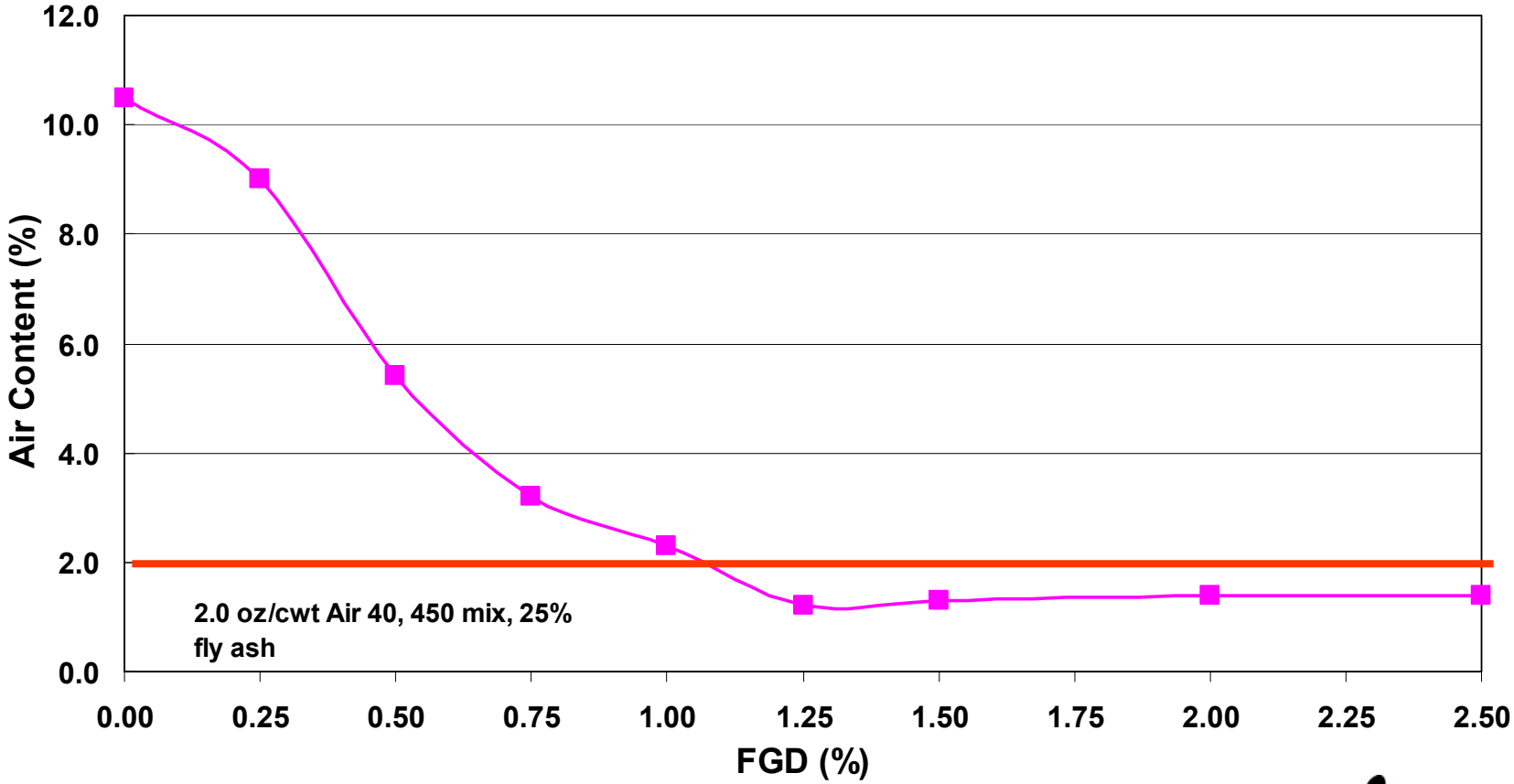
The Impact of FGD PAC on Concrete Air



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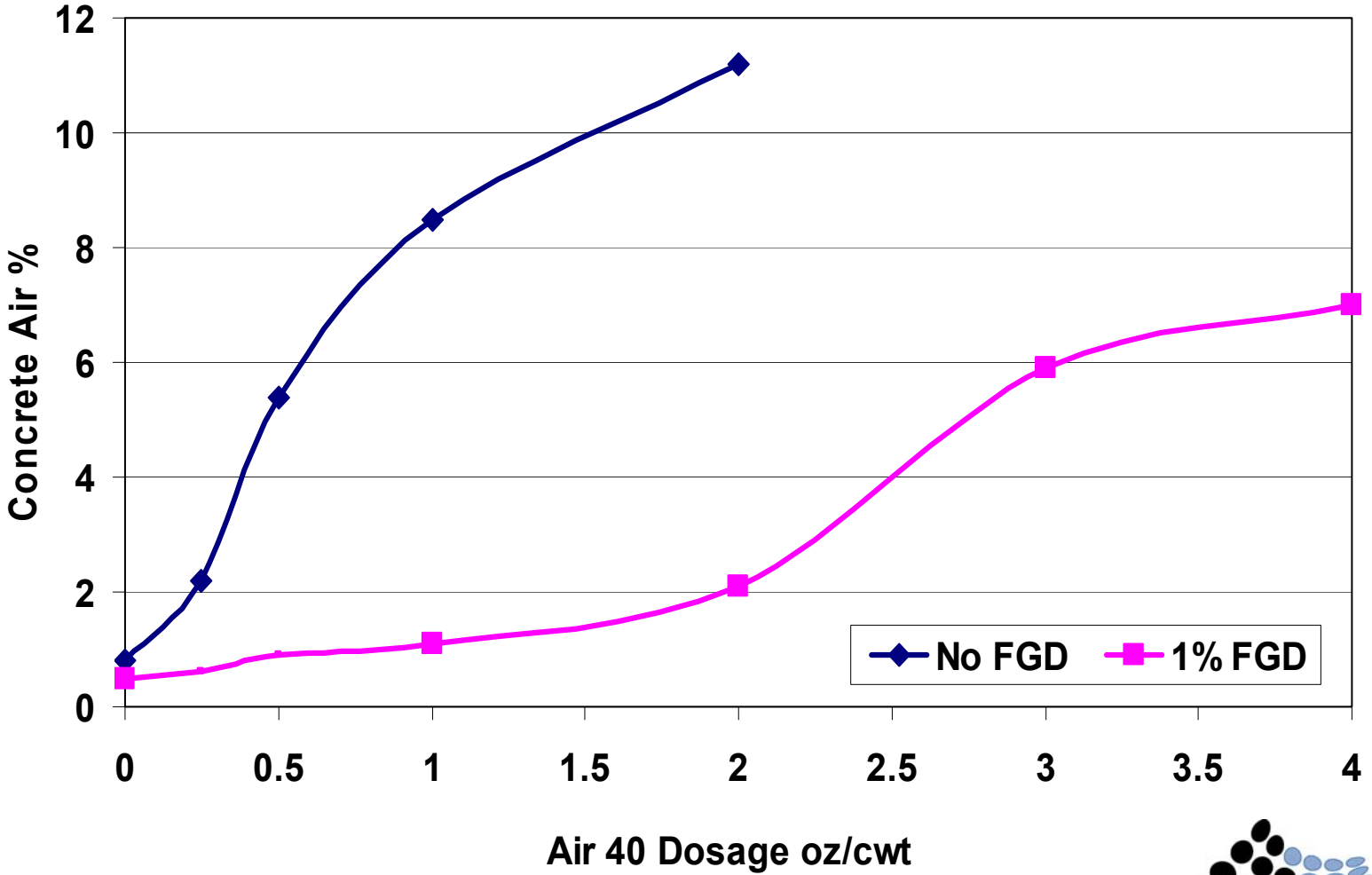
Impact of PAC on Concrete Air Entrainment

1% FGD PAC



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Conclusions

- Low concentrations of PAC will dramatically reduce the ability to use fly ash in air entrained concrete – potentially rendering the material unmarketable
- Standard fly ash beneficiation technologies may be applicable but performance and costs have not been established. Variation in PAC concentrations will be critical.
- Issues surrounding sorbent/Hg laden fly ash regarding Specifications and Environmental Classification remain uncertain.

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